12. A host cell genetically engineered with the polynucleotide of any one of claims 7 to 10, the vector of claim 11 or produced by introducing a expression control sequence into a host cell which mediates the expression of a gene encoding the polypeptide of any one of claims 1 to 6.

13. A process for isolating a phosphatonin polypeptide comprising the steps of:
    (a) culturing tumor-conditioned media or osteosarcoma cells to confluence in serum supplemented media (DMEM Eagles/10% FCS/glutamine/antimycotic (DMFCS);
    (b) incubating the cells on alternate days in serum free media DMEM Eagles/glutamine/antimycotic antibiotic (DM) up to five hours;
    (c) collecting conditioned serum free media from the cells and equilibrating the conditioned media to 0.06M sodium phosphate pH 7.2 and 0.5 M NaCl (PBS);
    (d) subjecting the media from (c) to an equilibrated column of concanavilin A sepharose;
    (e) washing the column extensively with PBS;
    (f) eluting the concanavalin A column with PBS supplemented with 0.5 M α-methyl-D-glucopyranoside;
    (g) subjecting the eluted material from (f) to cation exchange chromatography; and
    (h) eluting phosphatonin polypeptide containing fractions with 0.5 M NaCl.

14. A process for producing a polypeptide having the biological and/or immunological activity of phosphatonin comprising: culturing the host cell of claim 12 and recovering the polypeptide encoded by said polynucleotide from the culture.

15. A polypeptide which is obtainable by the process of claim 13 or 14 or by proteolytic cleavage of a phosphatonin polypeptide of any one of claims 1 to 6 or obtainable by the process of claim 13 or 14 by a PHEX metallopeptidase.

16. The polypeptide of any one of claims 1 to 6 or 15 having at least one of the following activities:

(a) it is capable of down-regulating sodium dependent phosphate co-transport;

(b) it is capable of up-regulating renal 25-hydroxy vitamin D3-24-hydroxylase; and/or

(c) it is capable of down-regulating renal 25-hydroxy-D-1-α-hydroxylase.

17. The polypeptide of any one of claims 1 to 6 or 15 having at least one of the following activities:

(a) it is capable of up-regulating sodium dependent phosphate co-transport;

(b) it is capable of down-regulating renal 25-hydroxy vitamin D3-24-hydroxylase; and/or

(c) it is capable of up-regulating renal 25-hydroxy-D-1-α-hydroxylase.

18. The polypeptide of claim 15 which has lost at least one of the activities as defined in claims 16 or 17.

19. An isolated antibody that binds specifically to the isolated polypeptide of any one of claims 1 to 6 or 15 to 18.

20. A nucleic acid molecule of at least 14 nucleotides in length hybridizing specifically with a polynucleotide of any one of claims 7 to 10 or with a complementary strand thereof.

21. An isolated regulatory sequence of a promoter regulating the expression of a nucleic acid molecule comprising a polynucleotide of any one of claims 7 to 10.

22. A recombinant DNA molecule comprising the regulatory sequence of claim 21.

23. A method for treating a medical condition related to a disorder of phosphate metabolism which comprises administering to a mammalian subject a therapeutically effective amount of the polypeptide of any one of claims 1 to 6 or 15 to 18 or of the polynucleotide of any one of claims 7 to 10, the vector of claim 10 or of the antibody of claim 19.

24. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject related to a disorder of phosphate metabolism comprising:
    (a) determining the presence or absence of a mutation in the polynucleotide of any one of claims 7 to 10; and
    (b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or absence of said mutation.

25. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject related to a disorder of phosphate metabolism comprising:
    (a) determining the presence or amount of expression of the polypeptide of any one of claims 1 to 6 or 15 to 18 in a biological sample; and
    (b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or amount of expression of the polypeptide.

26. A method for identifying a binding partner to a phosphatonin polypeptide comprising:
    (a) contacting a polypeptide of any one of claims 1 to 6 or 15 to 18 with a compound to be screened; and
    (b) determining whether the compound effects an activity of the polypeptide.

27. A method of identifying and obtaining a drug candidate for therapy of disorders in phosphate metabolism comprising the steps of
    (a) contacting the polypeptide of any one claims 15 to 18 or a cell expressing said polypeptide in the presence of components capable of providing a detectable signal in response to phosphate uptake, with said drug candidate to be screened under conditions to permit phosphate metabolism, and
    (b) detecting presence or absence of a signal or increase of the signal generated from phosphate metabolism, wherein the presence or increase of the signal is indicative for a putative drug.